AD-A120 756 LAKE ASHTABULA ENVIRONMENTAL ASSESSMENT FOR PUBLIC USE DEVELOPMENT & RESOURCE MANAGEMENT(U) CORPS OF ENGINEERS ST PAUL MN ST PAUL DISTRICT MAR 79 1/1

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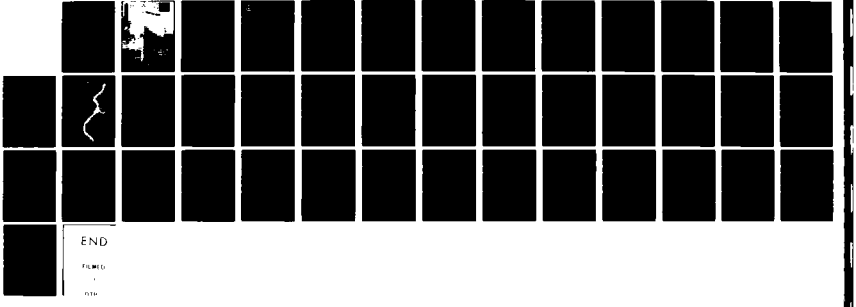

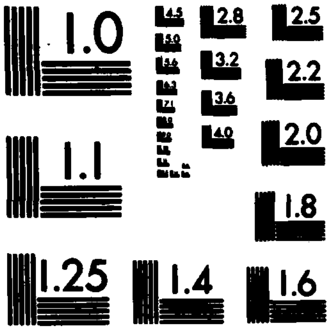

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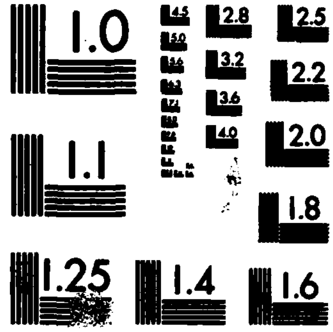

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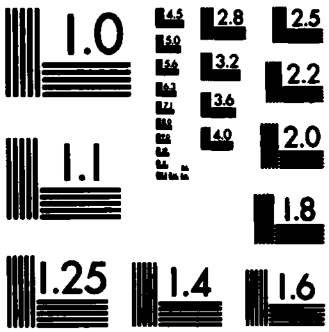

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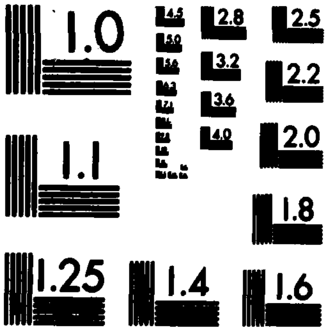

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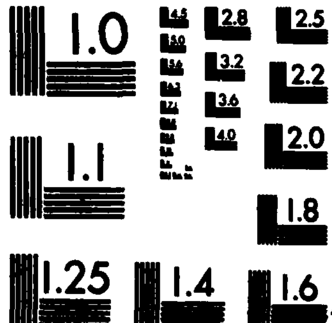

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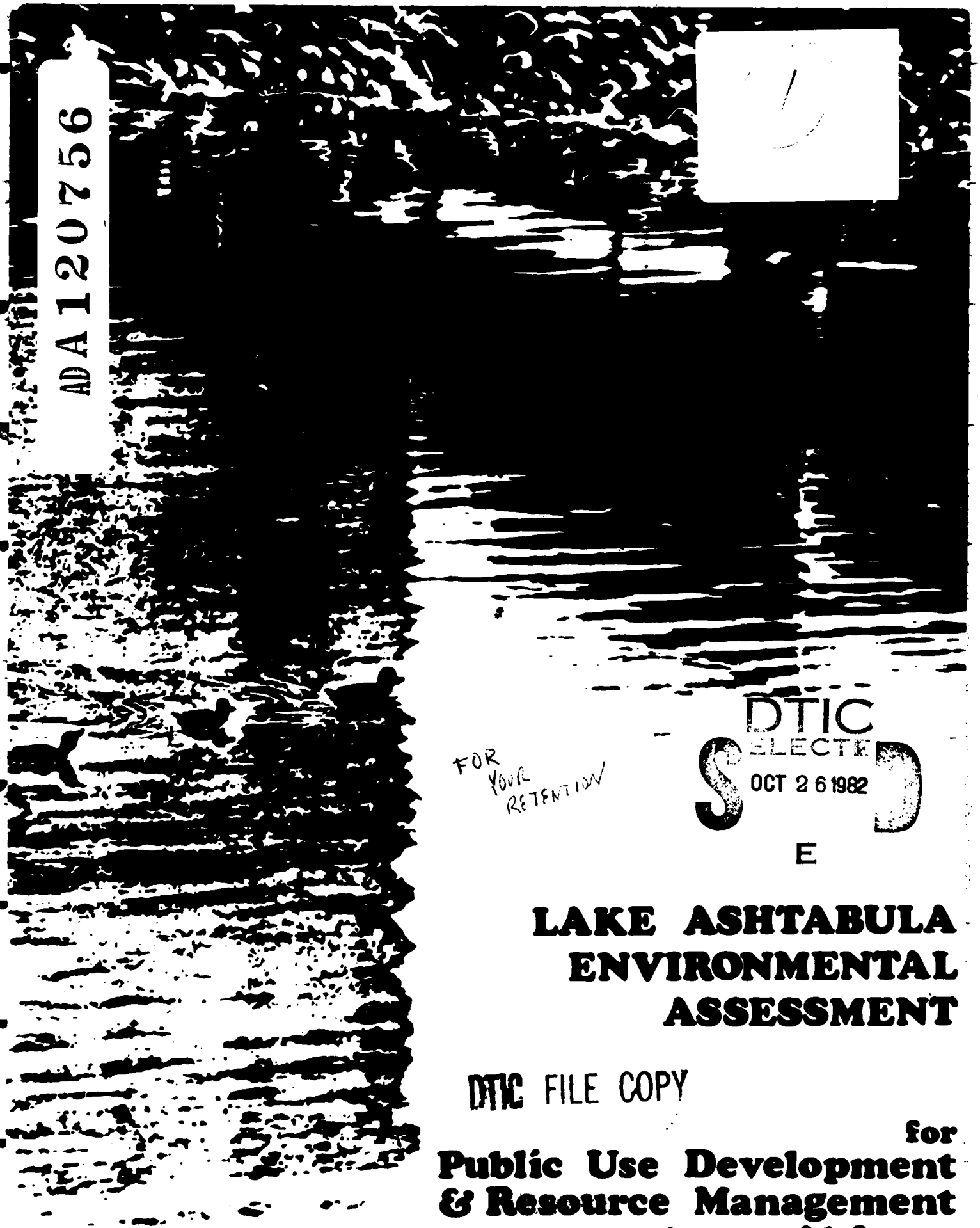

FOR YOUR RETENTION

LAKE ASHTABULA ENVIRONMENTAL ASSESSMENT

for

Public Use Development & Resource Management

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Date Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A120 756
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	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army Engineer District, St. Paul 1135 U.S. Post Office and Custom House St. Paul, MN 55101	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
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Environmental Assessment
Resource Management
Lake Ahstabula

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Lake Ashtabula, created by construction of Baldhill Dam, is located on the Sheyenne River in the eastern central portion of North Dakota. It is a milti-purpose project, operated to provide flood control, water supply, and recreational opportunities. Present construction activities include work on a seepage problem at Baldhill Dam, and phase one of a project to control erosion along the shoreline of Lake Ashtabula by placement of rock along vulnerable shoreline. The project also involves operation and maintenance

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DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1135 U. S. POST OFFICE & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101

REPLY TO
ATTENTION OF:

NCSED-ER

NEGATIVE DECLARATION

In accordance with the National Environmental Policy Act of 1969, the St. Paul District, Corps of Engineers has assessed the environmental impacts of the following project:

LAKE ASHTABULA MASTER PLAN UPDATE
FOR PUBLIC USE DEVELOPMENT
AND RESOURCE MANAGEMENT
BALDHILL DAM, SHEYENNE RIVER, NORTH DAKOTA

The environmental review indicates that the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement will not be prepared.

The attached environmental assessment report summarizes our environmental review. Those who have information which may alter this environmental assessment report and lead to a reversal of this decision should notify the District Engineer within 30 days.

Forrest T. Gay III

FORREST T. GAY, III
Colonel, Corps of Engineers
District Engineer

26 March 1979
DATE

ENVIRONMENTAL ASSESSMENT
LAKE ASHTABULA MASTER PLAN UPDATE
FOR PUBLIC USE DEVELOPMENT
AND RESOURCE MANAGEMENT
BALDHILL DAM, SHEYENNE RIVER, NORTH DAKOTA

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1135 U.S. POST OFFICE & CUSTOM HOUSE
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ENVIRONMENTAL ASSESSMENT
LAKE ASHTABULA MASTER PLAN UPDATE
FOR PUBLIC USE DEVELOPMENT
AND RESOURCE MANAGEMENT
BALDHILL DAM, SHEYENNE RIVER, NORTH DAKOTA

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FOR PUBLIC USE DEVELOPMENT
AND RESOURCE MANAGEMENT
BALDHILL DAM, SHEYENNE RIVER, NORTH DAKOTA

INTRODUCTION

The purpose of this document is to assess the environmental impacts associated with the updated Master Plan for Public Use Development and Resource Management of Lake Ashtabula. More specific information about the planned facilities is explained and illustrated in the updated Master Plan.

1.00 PROPOSED ACTION

BACKGROUND

Project Purpose

1.01 Lake Ashtabula is a multi-purpose project, operated to provide flood control, water supply, and recreational opportunities. It is operated primarily for control of the heavy spring runoff from snow melt in order to achieve flood damage reduction in the areas downstream of the dam.

1.02 During the late summer and early fall low-flow periods of the Sheyenne River, the stored water can be released for water supply, irrigation, and low-flow augmentation to areas downstream of the dam.

1.03 In recent years, the importance of providing recreational opportunities has increased. Lake Ashtabula is located in an area where there are few natural water bodies; consequently, this large expanse of water draws large numbers of visitors each year.

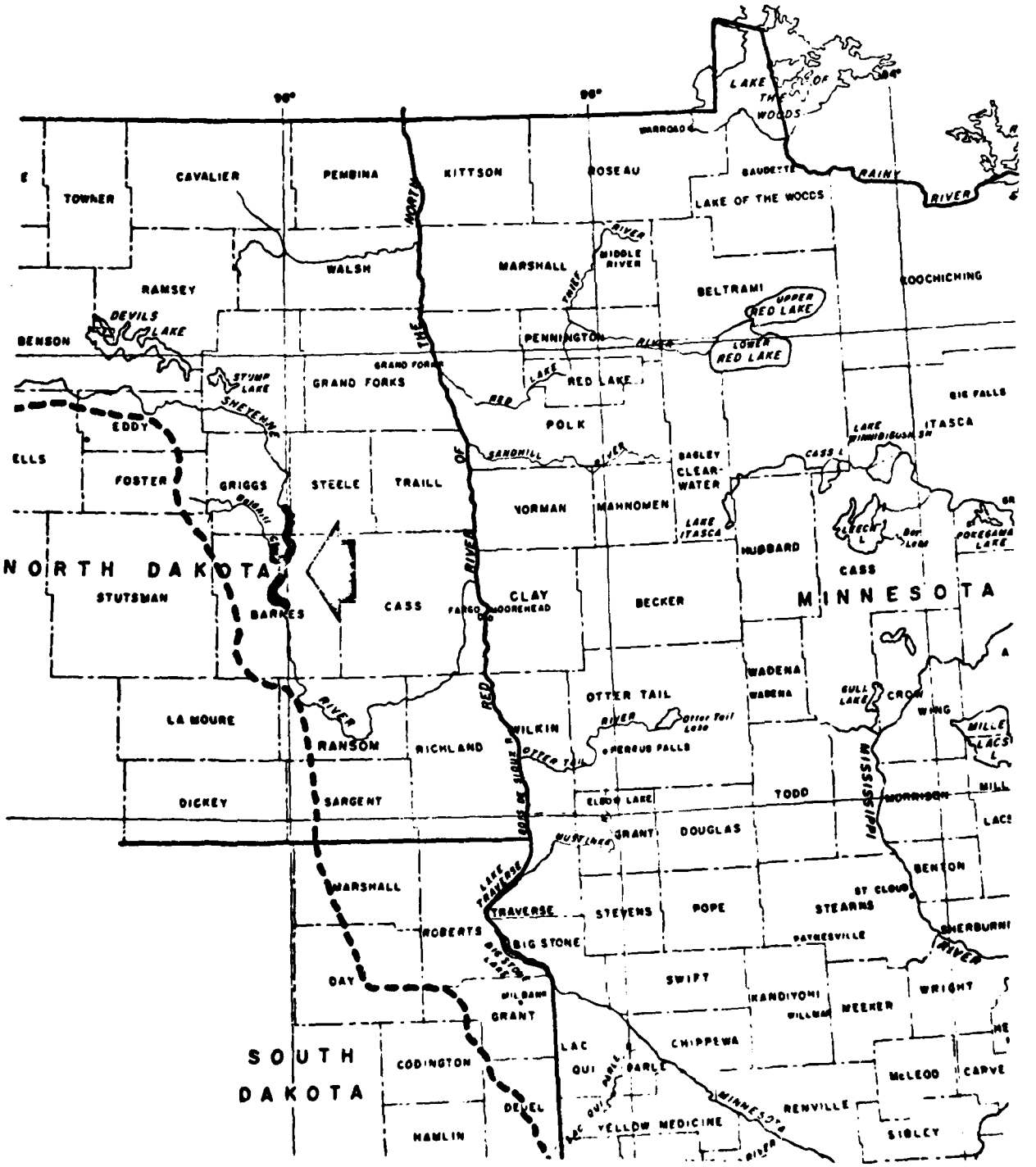
Project Location

1.04 Lake Ashtabula was created by construction of Baldhill Dam and is located on the Sheyenne River in the eastern central portion of North Dakota (Plate 1). The Sheyenne River originates in central North Dakota and flows approximately 500 miles southeasterly and joins the Red River of the North about 10 miles north of Fargo, North Dakota.

1.05 All the developed public use areas and the bulk of the lake's surface water is in Barnes County. The upper portions of Lake Ashtabula and related Federal lands are located in portions of Griggs and Steele Counties. By highway, the dam is about 75 miles west of Fargo and about 12 miles northwest of Valley City, the Barnes County Seat.

Plate 1

The Project Location



Project History

1.06 Construction of Baldhill Dam began in July 1947. In the spring of 1950, the dam, although not entirely completed, was placed in emergency operation because of severe flooding conditions. The Baldhill Dam was substantially completed in June 1950 and formally dedicated on 21 September 1952.

1.07 A master plan for administration and development of the project land and water areas of Lake Ashtabula was approved in May 1953. Recreation facility development proceeded in accordance with that master plan. The Barnes County Park Board developed eight public use areas at Lake Ashtabula on various sites leased from the Corps of Engineers. These sites included: East Ashtabula Crossing, West Ashtabula Crossing, Eggert's Landing, Katie Olson's Landing, Sundstrom's Landing, the Main Public Use Area, Keyes Crossing, and Old Highway 26 Crossing. The Park Board developed camping and day-use facilities at these sites and engaged in an extensive tree planting program with State assistance. At Old Highway 26 Crossing, the Corps of Engineers developed most of the facilities and did extensive tree planting.

1.08 In the mid-1960's, Barnes County returned all but three sites to the Corps of Engineers. The remaining county sites were East Ashtabula Crossing, West Ashtabula Crossing, and Eggert's Landing. The camping area at Eggert's Landing has since been returned to the Corps for management. Because of increased maintenance costs of these sites, the county could not afford to maintain them, thus the reason for their return.

1.09 At this time, there are two construction activities underway. Some construction work has been in process to correct a seepage problem at Baldhill Dam. Work has also begun on the first phase of a project to control erosion along the shoreline of Lake Ashtabula. Some 50 tons of rock will be placed along 10 to 15 miles of vulnerable shoreline.

The total project, which may take from 5 to 10 years to complete, calls for rock placement along about 78 miles of Ashtabula shoreline. A negative declaration and 404b evaluation on this riprap project were published on 23 November 1977.

Project Lands

1.10 Lake Ashtabula is located entirely on federally owned lands. However, the band of federally owned land around the lake is extremely narrow, and in certain areas is reduced to only a few feet. At points along the lakeshore, this Federal ownership expands so that there is room for recreational facilities. It is within these larger tracts that the existing recreational development has taken place. The overall land ownership is shown by Figure 1.

Figure 1

Project Data

Total Project area:	8483 acres
less flowage easements:	667 acres
Total area in Federal ownership:	7816 acres
Federally owned lands:	7816 acres
less normal pool area	5430 acres
Total project lands:	2386 acres
Total project lands:	2386 acres
less leases (includes the two county maintained recreation areas):	1538 acres
Corps managed lands:	848 acres
Corps managed lands:	848 acres
less developed sites (the six public use areas):	147
Undeveloped Corps lands	701 acres

1.11 Much of the federally owned land acquired for the project is leased for the purposes of wildlife management. The lands immediately below the dam are used by the U.S. Fish and Wildlife Service for fish hatchery ponds. The Federal lands along Baldhill Creek as well as the marsh areas above the lake are leased to the North Dakota State Game and Fish Department as refuge and wildlife management areas. Current leases are summarized in Figure 2.

1.12 Most recently, in response to established directives, the problems of private encroachments, alterations of shoreline, and removal of natural vegetation were addressed in an interim Lakeshore Management Plan. This plan designates areas of the lakeshore which are to remain natural and untouched and those areas where limited development is permitted under a permit and/or license program. This management plan was developed through a combined effort of Federal, State, and local government agencies and local special interest groups.

Figure 2

Current Leases

Grantee	Acreage	Purpose
Fish and Wildlife Service	37.1	Fish Hatchery
North Dakota Game & Fish Dept.	1,419.0	Wildlife Management
Griggs County Wildlife Assn.	1.0	Recreational
Board of Trustees, United Methodist Camp, A North Dakota Conference	6.0	Recreational (South of Eggert's Landing)
Lutheran Welfare Society, ND	5.0	Recreational (South of Eggert's Landing)
Barnes County Park Board, ND	55.3*	Park and Recreation
Paulson, Robert D.	0.6	Commercial Concession (Main Public Use Area)
North Dakota National Guard	33.3	Recreational (South of Eggert's Landing)

*Includes 1.5-acre commercial concession at Eggert's Landing.

Project Structures

1.13 Baldhill Dam consists of a compact earth embankment with a crest elevation of 1,278.5 feet. The top is 20 feet wide, the maximum height is 61 feet above the stream bed, and the length from the east abutment to the spillway structure is approximately 1,650 feet. The spillway structure is a concrete ogee overflow section surmounted by three 40 x 16 foot tainter gates; at maximum surcharge pool (elevation 1,273.2), spillway capacity is 43,100 cubic feet per second (c.f.s.).

1.14 There are three major buildings located on the west end of the dam near the spillway structure: (1) a shop and office building, (2) a shop and storage shed, and (3) a park manager's residence. Another major building is located near the east end of the dam in the Main Public Use Area. The lower level houses restrooms and changing facilities for the swimming beach adjacent to the building. The upper level is divided into an office for the area park manager and a display area for interpretive exhibits, and it functions as a public meeting hall as the need arises.

Recreational Areas

1.15 There are presently eight developed recreational areas at Lake Ashtabula: (1) Main Public Use, (2) Sundstrom's Landing, (3) Eggert's Landing, (4) Katie Olson's Landing, (5) East Ashtabula Crossing, (6) West Ashtabula Crossing, (7) Old Highway 26, and (8) Keyes Crossing (Plate 2). The Baldhill Dam site functions as an informal interpretive and general sightseeing area. Two of the recreational sites--East and West Ashtabula Crossings--are operated and maintained by Barnes County. Plans were developed for three additional areas--Baldhill Creek, Sheyenne Campsite, and The Island--as part of the 1967 Master Plan, but no development has ever taken place. Existing and proposed facilities are summarized in Figure 3.

1.16 Visitation - Visitation of the Lake Ashtabula project has been on a steady increase since the late 1960's when yearly visitation figures were first developed. During the last 5 years, there has been an average yearly increase of 4 to 5% in visitation. The lake is also well used in the winter months, providing excellent fishing and snowmobiling opportunities. During the winter of 1975-1976, it was estimated that between 1,800 and 2,000 people per month used Lake Ashtabula for winter recreation.

1.17 Access - Vehicular access to Lake Ashtabula is somewhat limited depending upon user origin and destination. The primary reason for poor access is that the lake was developed or imposed upon an existing road network. Many of the old section line or township roads were cut by the reservoir. Most recreation areas are located at the ends of these severed township roads. It is very difficult for visitors unfamiliar with the area to find some of the various recreation areas because they are forced to use a road system which did not anticipate a major recreational facility.

1.18 Major access to the area is from the south off of Interstate 94 through Valley City. Visitors can follow paved roads and signs to the Main Public Use Area and Baldhill Dam quite easily. However, from other directions traffic filters over State, county, and township roads, most of which are gravel, confusing, and poorly signed.

Lake Ashtabula Master Plan

US Army Corps of Engineers
Bather Ringrose Wolsfeld

Land Allocation

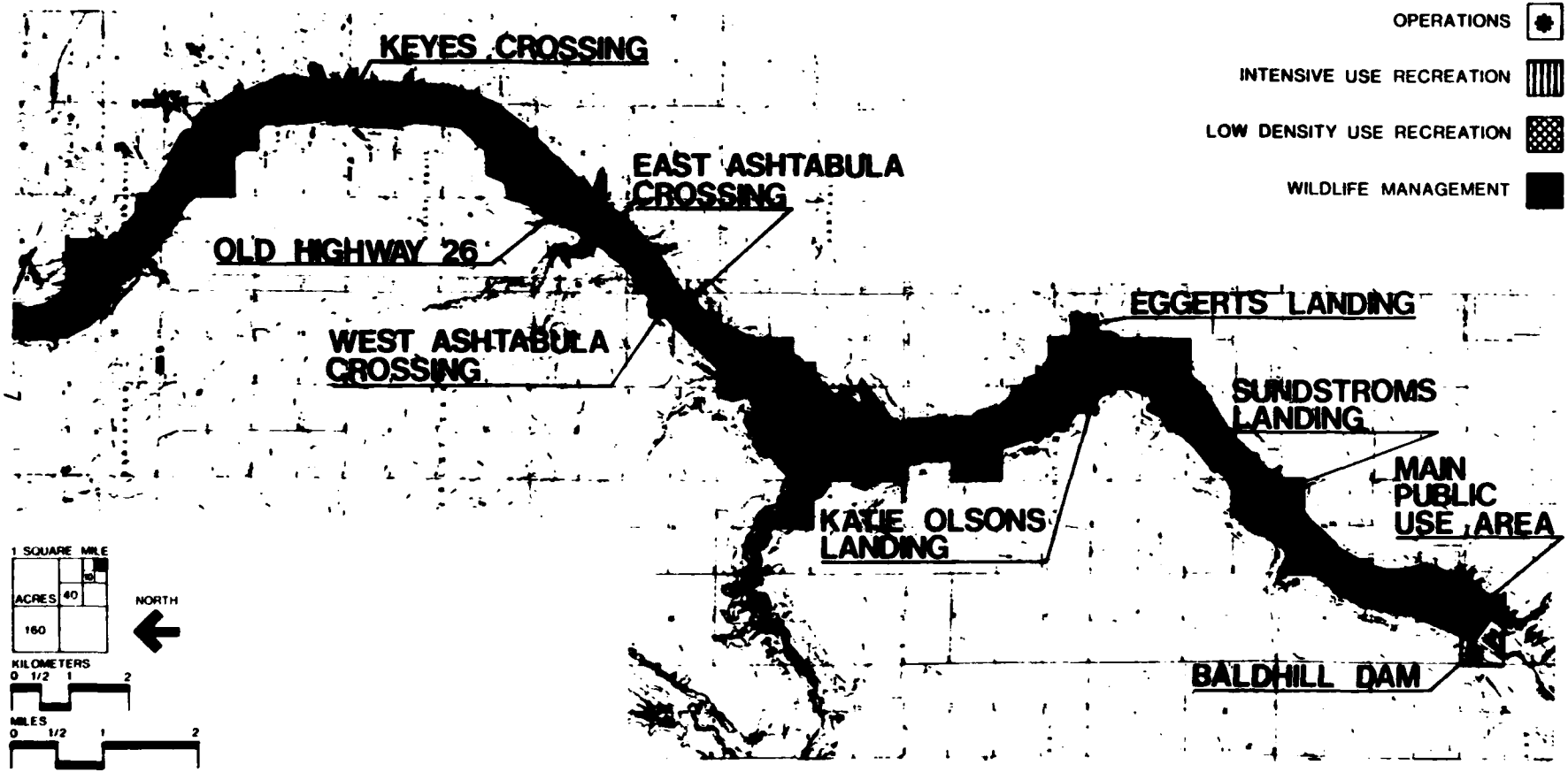


Plate 2

Figure 3

Proposed Facilities	MPUA	BALDHILL DAM	SUNDSTROMS LANDING	EGGERTS LANDING	KATIE OLSEN'S	EAST ASHTABULA	WEST ASHTABULA	OLD HIGHWAY 26	KEYES CROSSING	
SWIMMING BEACH	1		1	1		1			1	5
(EXISTING)	1		1			1				3
BOAT LAUNCH	1(2)		1(2)	2	1	1	1	1	1	11
(EXISTING)	1(2)		1(2)	1	1	1	1	1	1	10
PARKING	165	17	82	116	42	48	24	71	30	595
(EXISTING)	165	12	75	30	40	- 120 -		75	60	577
PICNIC UNITS	99	3	25	30	20	40	0	15	8	240
(EXISTING)	65	3	16	14	12	75	32	10	4	231
CAMP UNITS	27		45	153		20	60	30		335
(EXISTING)	27			23		51	9	20		130

The number of units given for the proposed facilities is the number of units that would exist at each recreational site after the plan of improvement is implemented. In some cases, the number of units at a site would be decreased. For example, there would be 76 new picnic units, but only a net increase of 9 picnic units. Existing facilities would be improved.

PROPOSED MODIFICATIONS

Main Public Use Area

1.19 Existing Situation - This site covers 70 acres at the south end of Lake Ashtabula on the east bank adjacent to the dam and acts as the "front door" or entrance to Lake Ashtabula. The site is divided into three general use areas, each well separated from the others. As visitors enter the site from the south, the first major activity area that they encounter is the large day-use facility. It includes the Visitor Center, which provides a small self-guided interpretive program and gives basic information about Lake Ashtabula and its facilities, the area park manager's office, changing rooms, and toilets. Included within this day-use area are a large picnic area with play equipment and shelter, a swimming beach, and one concessionaire which provides various small items and rental of boats. This day-use area is served by one large paved parking lot providing parking for 80 cars.

1.20 Further into the site, located on the main road, is an overnight camping area. This facility provides paved pads for vehicle camping and tent camping areas. The area in which the camp sites are located provides an outstanding view of Lake Ashtabula.

1.21 Located farther north on the site is the third major use area. This area consists of one boat launching ramp with two lanes, and support parking providing space to park 17 cars and trailers.

1.22 Proposed Modification - All existing camp sites will remain as they are. Plant material will be added to enhance the area for better day use and camping. The existing day-use area of Main Public Use will remain as is. The existing swimming beach will be expanded. Roadways and parking areas will be reduced slightly and access to the concessionaire modified. Use of the existing Visitor Center will be expanded.

Baldhill Dam

1.23 Existing Situation - The recreational area is located at the west end of the earthen dam. There is limited parking, and the placement of support buildings such as the metal maintenance building detract from the dam and control structure. There is no interpretive program to explain how the dam works and only limited general information regarding the structure.

1.24 Proposed Modification - Interpretive displays will be developed to explain why the dam and reservoir were built and the benefits arrived at by its construction. It will also explain how the dam functions. The interpretive program will include an explanation of the type and location of facilities provided at Lake Ashtabula.

1.25 Support parking for this facility will be provided for cars, car-trailer combinations, and buses. It will be located carefully because soil problems exist along the bank behind the dam. Access to the existing residence and workshop will be de-emphasized, and both will be screened from the parking area and approach drives.

Sundstrom's Landing

1.26 Existing Situation - Sundstrom's Landing, located approximately 2.6 miles above the dam, is a 9-acre site on the east bank of the lake. It is regarded as a day-use area because it provides for swimming, boat launching, and picnicking. There is no easy and direct way to get to the area. Access is over gravel township roads.

1.27 Proposed Modification - The site is large with only a small portion presently developed. The undeveloped portion is moderately sloped with heavy tree cover. It is a perfect site for tent camping, being too steep for vehicle camping. It will be developed for primitive tent camping. A support parking facility will be provided so that campers will have to hike into their camping site. The existing beach will be relocated to a more central location, and a new change house/toilet building will be constructed. The existing picnic areas will be maintained and expanded, and the existing access road will be upgraded along with the existing parking facility.

Eggert's Landing

1.28 Existing Situation - Eggert's Landing is located on the east shore of the lake 5.3 miles above the dam. The site totals 28 acres and has excellent access off a paved county road. It provides for boat launching, picnicking, and overnight camping. There is also a concessionnaire who rents boats and cabins and sells gasoline, fishing tackle, and prepackaged food.

1.29 The three use areas are well separated, but to reach the picnic and camp area one must drive through the concessionaire's area. The road separates the picnic area and the rental cabins from the water. In the camping area the access road entirely circles the toilets and, by doing so, puts more emphasis on them than warranted.

1.30 The picnic and camping areas are well laid out and spacing is adequate. The camping is located in a pleasant wooded camping environment. A large portion of this site has not been developed and provides good opportunities for expansion and development of new facilities.

1.31 Proposed Modification - Eggert's Landing presently provides camping, picnicking, and boat launching. This site will become the major campground at Lake Ashtabula. The flat, heavily wooded terrain north of the existing camp area is highly desirable for vehicle camping. Because of the heavy vegetation, it provides excellent cover from wind and sun. The campground will be developed in separate camp loops. The loops can be added as other camp pads are eliminated at other sites around the lake and relocated to Eggert's. Because each loop is separate, they can be easily closed for rehabilitation or maintenance. Each camp site and loop will be located in the field to take advantage of the existing tree cover.

1.32 Included in the campground would be the construction of shower facilities/toilets. Boat tie-up areas and launching facilities will be provided along the shoreline for those campers with boats. There will also be provided a swimming area along the shoreline. Access into the campground will be provided by a new road which has a campground check-in station for security and control.

1.33 The existing road and parking area, located near the existing picnic area, will be removed. New parking facilities for day-use activities will be located closer to the entrance, thereby letting the picnic areas expand to the lake.

1.34 The existing boat ramp will be improved and parking for car-trailer combinations developed. A fishing dock will be constructed along with fish attractors to provide an opportunity for handicapped and children to fish.

1.35 There does exist the need for a commercial concession at Eggert's Landing to provide gas, fishing supplies, and food stuffs for campers. The need for rental cabins must be further evaluated.

1.36 The mouth of the creek at Eggert's Landing is presently shallow and may become too shallow for launching boats there. The need for dredging, the method of dredging, the method and location of disposal of dredged material, and the environmental impacts of these actions will be evaluated when it becomes necessary to do so.

Katie Olson's Landing

1.37 Existing Situation - Located on the west shore directly across from Eggert's Landing, this 11-acre site is considered a day-use area and provides boat launching and picnic facilities. The site itself is nicely wooded.

1.38 Proposed Modification - The only improvement seen for this area is an upgrading of the boat launch and support parking facility. The existing internal road should also be reduced to open the shoreline for enjoyment by the picnickers. These improvements will be made to reduce operation and maintenance costs, erosion problems, and increase picnic areas. It should remain a day-use area with a very low priority for redevelopment.

East Ashtabula Crossing

1.39 Existing Situation - Located 10.4 miles above the dam on the east shore, this site is easily accessible by way of a paved county road which crosses the lake at this point. This site is maintained and operated by Barnes County and provides boat launching, swimming, picnicking, and overnight camping. East Ashtabula covers 12 acres and has a mixture of mature trees and shrubs.

1.40 Proposed Modification - Formal campsites will be developed off an internal loop road. Street enforcement will be needed to insure camping in designated sites only.

1.41 Other modifications will include the upgrading of the boat launching area and support parking. Picnic and swimming parking will be provided at the eastern edge of the site. The balance of the site will be developed into picnic areas, group picnic areas and an open sport area for general field sports. The existing swimming beach will be enlarged and a new beach changing house with toilets will be constructed.

West Ashtabula Crossing

1.42 Existing Situation - Directly across the reservoir from East Ashtabula, this 23-acre site provides overnight camping, picnicking, and boat launching. The existing use areas are well separated and provide an enjoyable area for camping, including electrical hook-ups for campers. This site presently acts as an overflow facility for East Ashtabula. Presently, it is rather limited in development and has a large undeveloped portion for further expansion.

1.43 Proposed Modification - West Ashtabula will be utilized primarily for camping. The existing road will be utilized and individual camp units will be located in the field. The existing boat launch area will be upgraded along with its support parking.

Old Highway 26

1.44 Existing Situation - This site is located about 12.2 miles above the dam on the western shore and covers approximately 27 acres. This site provides overnight camping, boat launching, and picnicking. There has been a tree planting program in the past that has provided much of the area's environment and provides the natural cover.

1.45 Proposed Modification - The boat launch area and support parking should be improved, and the picnic area and its parking be more appropriately sited to fit into the existing terrain and environment. A portion of the existing camp area should be retained but the spur that provides camping on the western point will be removed. The point will be planted to provide cover for the existing camp pads.

1.46 The proposed improvements will not be made until the question of maintenance of the existing gravel township roads has been resolved. The proposed improvements will provide for reduced operating and maintenance costs and improved recreational experiences.

Keyes Crossing

1.47 Existing Situation - Located 14.9 miles above the dam on the west shore, Keyes Crossing is easily accessible from State Highway 26, which will be paved during the 1978 construction year. Keyes Crossing is the smallest of the existing recreation sites. This developed site provides boat launching and limited picnicking. The site's main function is to provide access onto the upper portions of the lake and at present is fully developed with no additional space for expansion.

1.48 Proposed Modification - A beach area which is suitable for swimming would be opened up for such use. Also, the boat launch and support parking will be modified slightly and picnic facilities will be maintained. This area lies adjacent to the town of Sibley and at present acts as their "city" park.

1.49 At the time the bridge and its approaches are upgraded by the State, existing use and future demand will be examined as will be the need for providing a pedestrian underpass which would link both portions of this site.

Other Sites

1.50 Existing Situation - Three other sites were originally intended to receive recreational facility development according to the 1967 Master Plan. Baldhill Creek, located 9 miles above the dam on the western bank, was intended to provide camping and boat launching. Sheyenne Campsite, located 9.3 miles above the dam on the eastern bank, was planned to provide camping and boat launching facilities. The Island, located 16.2 miles above the dam, was intended for primitive camping with access provided only by boat.

1.51 These three large parcels will remain undeveloped. Baldhill Creek, Sheyenne Campsite, and the Island all have access problems and are better suited as management areas for the North Dakota Game and Fish Department. Based upon future demand calculations, developed within the Master Plan, they will not be needed for many years. Only after the existing recreation sites have been fully developed will these three sites be re-examined as to their possible recreation potential, should future demand increases dictate expanded recreation facilities.

1.52 Under present policy, development of these sites will depend on finding some interested public sponsor to share in development costs. No such sponsor has, to date, expressed interest in development of these sites.

Other Activities

1.53 The waters and lands of Lake Ashtabula also provide for fishing, ice fishing, water skiing, sailing, waterfowl hunting, hiking, snowmobiling, cross country skiing, ice skating, and sledding.

Proposed Trail System

1.54 Future development will include the establishment of a trail system where feasible to interconnect the major recreational areas on the lake. This trail should be developed for cross country skiing in the winter and hiking and biking at other times of the year. It should not be utilized by ATV's or snowmobiles. As part of a first leg of this trail system, Main Public Use and Sundstrom's Landing will be connected by a bituminous path.

1.55 At present, no private development exists along this section of shoreline, and sufficient federally owned land is available for this section of trail. It will provide the opportunity for campers at Sundstrom's Landing to hike for supplies to the concessionaire at Main Public Use. This section of trail can be utilized as a learning guide or interpretive tool pointing out river valley formulation, wildlife, and vegetation indigenous to this area by the use of informative plaques or bollards.

2.00 ENVIRONMENTAL SETTING

Climate

2.01 The average annual precipitation over the Lake Ashtabula basin is less than 19 inches. June, July, and August are the months with the highest average precipitation. Winter precipitation is light with heavy snowfalls being the exception rather than the rule. This region receives about 32 inches of snowfall annually. The combination of the spring snowmelt and the additional runoff from the spring rains has caused the majority of the damaging floods on the Sheyenne River.

2.02 The summers at Lake Ashtabula are generally comfortable, averaging in the low 70's with very few days of hot and humid weather. Nights, with a few exceptions, are comfortably cool, in the upper 50's. The winter months are cold and dry with maximum temperatures rising above freezing only on an average of 6 days each month, and with nighttime lows dropping below zero approximately half of the time.

Topography and Soils

2.03 The Sheyenne River Valley is deeply cut into relatively flat regional topography, the typical slope of which is about 15 feet per mile. Because of this flatness, the lake is difficult to perceive from as near as a half-mile to the east or west. The slopes immediately surrounding the lake are moderate to steep, with frequent and deep branching ravines. Because of the steepness, agricultural use in the area is typically limited to grazing, with some scattered areas under cultivation. There are also spotted developments of homes and summer cottages on the flatter terrain along with the recreational areas. The actual project lands are not intended to be used for either grazing or farming but rather to act as natural buffers between the lake and the non-project lands. However, some unauthorized grazing on project lands occurs because of a lack of fencing, and some crop spraying on adjacent private lands drifts onto project lands, adversely affecting vegetation.

2.04 Since the terrain surrounding Lake Ashtabula is flat and open, wind is a major factor in the climate of the project area. Wind speeds average 15 miles per hour, and speeds of 30 to 40 miles per hour are common.

2.05 Soils in the Lake Ashtabula basin are of the Buse and Renshaw soil series. Both these soils are a dark friable loam, well drained, with high available water capacity and high susceptibility to wind and water erosion. These soils are not very productive, and when cultivated they become moderately to severely eroded (Institute for Ecological Studies, 1974). Since these soils are not very fertile, the overgrazing by livestock has seriously affected vegetation to the point where natural cover has been eliminated or destroyed, inducing erosion at many areas along the reservoir. The exposed shales along the lake are also susceptible to erosion through shrink and swell action resulting from fluctuating water levels. Because these soils are so susceptible to erosion, recreational facilities must be located carefully, on the more level areas protected from the wind.

2.06 Erosion caused by either the fluctuating level of the lake or the elimination of natural cover has resulted in the loss of federally owned land to the extent that in certain areas there is private ownership down to the water's edge.

Ecology

2.07 The land in the river basin is essentially agricultural, with most of the flat or gently sloping land under cultivation while the steeper slopes are used for grazing. Project lands evolve from grasslands to shrub brush communities dominated by wolf-berry to native prairie. Wooded areas can be found along the shoreline at scattered locations and in most of the ravines feeding into the reservoir. The dominant tree species are: bur oak, American elm, cottonwood, Russian olive, and box elder. Wetland vegetation such as cattails and bulrushes are occasionally found in small stands along the main body of the lake but are the dominant plant communities at the Baldhill Creek area and the upper reaches of the lake. Pondweed (Potomogeton spp.) is prevalent along the shoreline (Institute for Ecological Studies, 1974).

2.08 Lake Ashtabula has improved fishing conditions several times over that of the pre-impoundment condition of the Sheyenne River (Institute for Ecological Studies, 1974). Recreational fishing is very popular, with yellow perch, walleye, white bass, northern pike, and black bullheads being the most commonly caught species. The lake is a good producer of fish because of its high fertility, although there is some concern for the supply of spawning habitat for walleye and northern pike. Sedimentation is responsible for a decrease in spawning grounds and could create a problem for fish production in the future, which in turn would decrease the popularity of fishing at Lake Ashtabula.

2.09 The U.S. Fish and Wildlife Service operates a fish hatchery directly below the dam. In the spring of each year, FWS personnel catch northern pike and walleye and strip them of their eggs. These eggs are hatched, and some of the northern pike and walleye fingerlings are returned to Lake Ashtabula in the fall. The majority of these fingerlings are used to stock other areas in North Dakota and the upper Midwest. Lake Ashtabula is considered an excellent source of high quality fish eggs according to the FWS.

> "The Fish and Wildlife Service believes that natural reproduction is much more important in maintaining populations of walleyes and northern pike in Lake Ashtabula than the annual stocking of fingerlings. This emphasizes the importance of maintaining good spawning habitat. The stocking of Lake Ashtabula is the result of an agreement between the Fish and Wildlife Service and the North Dakota Game and Fish Department to stock a portion of the fingerlings produced from spawn taken from Lake Ashtabula back into the lake."

2.10 Rough fish such as carp have not yet been a problem in Lake Ashtabula. During the construction phase, all fish were poisoned in the basin and the lake was then restocked with desirable fish. To guard against introduction of rough fish into the lake, it is unlawful to use live minnows for bait on Lake Ashtabula.

2.11 Compared to pre-reservoir conditions, there has been a general decrease in wildlife habitat for feeding and rearing and, subsequently, in species populations. Game birds such as pheasant, partridge and grouse have diminished because of loss of habitat, which consisted primarily of the wooded shoreline along the Sheyenne River. Muskrats, mink, beaver, and raccoon are still found at Lake Ashtabula although substantially reduced from preimpoundment populations. White tailed deer populations have also decreased due to the flooding of woodlands that existed along the river.

2.12 Waterfowl habitat for feeding and rearing is not good at the reservoir because the fluctuating water level makes it difficult for wetland plants to become established. During the spring and fall, however, Lake Ashtabula is a major resting area for many species of waterfowl, including ducks, geese, and whistling swans. White pelicans and double crested cormorants are also common throughout the spring and summer months.

2.13 The changes that have occurred along the reservoir are expected to remain constant. While the North Dakota Game and Fish Department has established a number of game management areas along the lake, upland game is still not common along the lake (Institute for Ecological Studies, 1974). Only limited management of game can take place on unfenced lands such as those at Lake Ashtabula.

Water Quality

2.14 Lake Ashtabula is a nutrient-rich water body which produces frequent algal blooms and large fish populations. The lake is highly eutrophic and is aging faster than normal. There have been a number of studies on the water quality of the lake. All agree that the lake is eutrophic but differ as to the source.

2.15 The Sheyenne River carries sediment and nutrients into the lake. The nutrients entering the lake come from many sources upstream in the drainage basin of the lake. The entire area around the lake and upstream is heavily farmed or ranched. Runoff from the highly fertilized fields and feedlots eventually finds its way into the lake. Since the lake has a controlled outlet, the nutrients settle out, accelerating the aging process.

2.16 Due to the large number of algal blooms, swimming and other water oriented activities have declined in popularity. The lake remains very productive for fishing, however.

2.17 The North Dakota Game and Fish Department has indicated a concern about the quality of fishing due to deterioration of water quality. Populations of yellow perch, suckers, and bullheads are increasing. Rising nutrient levels, decreasing dissolved oxygen levels, and increasing aquatic vegetation all contribute to a decrease in high quality game fish such as northern pike and walleye. Current residents and users indicate that fishing success for walleye and northern pike is declining. The Game and Fish Department feels that their annual stocking program is not increasing the fish population since most of the fingerlings are being preyed upon by the overabundance of perch. Northern pike and walleye will continue to decline if water quality continues to decline and spawning areas are destroyed.

2.18 The increased aquatic plant life has begun to affect boating, and the frequent algal blooms in July and August have affected swimming. Young adults and teenagers in the Valley City area have indicated that they are using Lake Ashtabula less for swimming due to the water quality.

2.19 If the lake's water quality continues to deteriorate, there will be less need to redevelop the existing recreation sites. Since Lake Ashtabula is a water-oriented recreation project, existing usage could decline as water quality declines.

2.20 There have been numerous solutions suggested as to how the quality can be improved. They include fencing the project to limit cattle trespass, creating check dams and settling basins upstream and in the coulees, commercially fishing the perch, and constructing a low level release at the dam. None of these solutions will ever make the lake crystal clear, but there are solutions, or combinations of solutions, which can improve the quality and maintain it. The decision must be made whether the improvement of water quality is economically and politically feasible. The water quality cannot be improved by the Corps alone. It will require a concerted effort by Federal, State, and local public agencies and surrounding residents, farmers, and ranchers. The extent of future recreational development will be dependent upon the decision regarding the water quality of Lake Ashtabula.

Social Factors

2.21 North Dakota experienced its greatest population in 1930. With the drought and depression years that followed, the population dropped rapidly as people sought employment elsewhere. At that same time, people began moving from rural areas into urban centers. That trend is continuing and is reflected in the population figures for Barnes, Griggs, and Steel Counties.

2.22 Farming and ranching are the major occupations in this area. Technological advances and economic factors have affected both. Farms and ranches are getting larger, but are operated by fewer people.

2.23 While there are now fewer people in the three-county area, these people have higher incomes and more leisure time. These two factors, combined with a larger selection of recreational products, have a direct influence on use of recreational facilities. Recreational activities will increase and will become more diverse as the general public becomes better able to afford specific equipment or facilities.

Related Recreation Areas

2.24 Within a 50-mile radius of Lake Ashtabula, there are no other major water oriented recreational facilities. Other, non-water oriented, recreation areas within this zone attract users and compete with Lake Ashtabula in certain activities.

2.25 To the south, Barnes County operates two parks: (1) Clausen Springs, which provides the same facilities as Lake Ashtabula, and (2) Little Yellowstone, which provides camping and picnicking. Together, these two facilities provide the most competition for visitor use within the 50-mile zone.

Cultural Resources

2.26 In compliance with Executive Order 11593 and the National Historic Preservation Act of 1966, the most current listing of the National Register of Historic Places has been consulted, and as of 11 April 1978, no properties included on or determined eligible for inclusion on the National Register would be affected by the proposed recreational developments. However, there is a high potential of archaeological remains existing in several of these recreation areas, based on recorded sites nearby. The same topography that makes these areas suitable for present-day recreational use may have attracted prehistoric peoples as well.

2.27 Several reconnaissance surveys of portions of the Lake Ashtabula area have been completed over the last three decades. The most significant were completed in 1948 by the National Park Service, prior to creation of the reservoir; and in 1974, by the University of North Dakota, which rechecked the sites located by the earlier survey, in addition to surface examination of about 70 percent of the shoreline. In 1976, Mankato State University, under contract with the St. Paul District, completed an aerial survey with infra-red photography of the east side of the reservoir. Based on these past investigations and additional reported leads, there are nine recorded sites and five site leads on lands adjacent to Lake Ashtabula. In addition, four known sites were inundated by the creation of the reservoir.

2.28 Although there have been several previous investigations, there is insufficient information at this time to assess the impacts of the recreational developments on cultural resources. The construction of new swimming beaches, campsites and picnic areas, toilet facilities, parking areas, access roads, a bituminous trail and new plantings, and increased public use would adversely affect any cultural resources located within these areas.

2.29 Under Executive Order 11593, the St. Paul District is required to inventory all cultural resources on Corps owned property, and to evaluate their significance according to the National Register of Historic Places criteria. We are currently initiating a contract for an intensive survey to be completed this summer. In the event that significant cultural resources would be affected by unavoidable construction impacts, the St. Paul District would initiate a data recovery program acceptable to the State Historic Preservation Officer and to the Advisory Council on Historic Preservation to mitigate the adverse impacts. It is possible that portions of the artifacts recovered would be used at some future date for interpretation. In addition, the construction contractors would be instructed to immediately discontinue work and to notify the St. Paul District Archaeologist should previously undetected cultural remains be encountered during construction.

3.00 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

3.01 This section assesses the probable environmental impacts associated with the modifications proposed in the Master Plan revision. It is not known whether all of the proposed modifications will be accomplished and, if so, what the time schedule will be. Much depends upon the availability of funding and the priorities set for the individual projects. The parameters in Exhibit 1 have been reviewed and considered in the assessment of the impacts of the proposed action. The following is a discussion of the salient impacts of the proposed action.

SOCIAL EFFECTS

Noise Levels

3.02 Construction of the various individual projects would temporarily increase noise levels from the operation of construction equipment. The loudest single noise would be that associated with chain saws utilized in tree removals. Other noise sources would be trucks, earth-shaping equipment, and general human activity.

3.03 The minor increase in noise levels during construction could be disturbing to people and wildlife using the recreation areas. Most work would be scheduled to avoid this, but undoubtedly some work would be done during the recreation season. The overall effect should be negligible in view of the small scope of projects and short duration of active construction periods.

3.04 The end result of improved recreational facilities would be an increase in noise levels at Lake Ashtabula. Improvement and expansion of the Visitor Center and to the parking, beach, boating, camping, and picnic facilities would attract more visitors. More people and more vehicles at the recreation sites would result in increased noise levels. This greater noise would be locally disturbing to individual visitors and to wildlife.

Aesthetic Values

3.05 There would be some construction disturbances such as tree removals, soil disturbances, and truck traffic that would detract from the aesthetic quality of the recreation areas. Once construction is completed, all disturbed areas would be graded and replanted.

3.06 Extensive selective plantings are proposed for all the sites to improve site-specific visual qualities. Native shrubbery, seedlings, saplings, and, in some cases, semi-mature trees would be planted to provide screening, shade, and/or food for wildlife.

3.07 Although the quantity and quality of facilities and landscaping would be improved, there is one aspect in which the quality of the aesthetic and the recreational experience for individuals would be lessened. With increased visitation and expanded use of the waterfront and natural areas, some may find the increased crowding, noise, and intrusion on natural areas to be disquieting. The area between the shoreline and the roads and parking lots would be landscaped with plantings. Wherever possible, roads and parking lots would be relocated away from the lake.

Recreation

3.08 The proposed modifications would expand the use capacities of the recreation areas. Information, swimming, boating, picnicking, and camping would be improved by adding to the man-made aspects of these facilities. The most significant improvements would be to camping facilities, which would be more than doubled, primarily at Eggert's Landing.

Land Use

3.09 The modifications would enhance the ability of the recreation areas to serve their designated use. Expansion of parking, picnicking, and camping facilities would increase the use of open and wooded lands for recreational purposes. Camping, which would be more than doubled, would be the source of the most significant increase in space usage, particularly at Eggert's Landing.

Transportation

3.10 Access roads would be improved at Sundstrom's Landing and added at Eggert's Landing. Also, impacts would be associated with improvement and expansion of parking facilities. Overall, 18 unit spaces would be added to the existing 577. There would be temporary and minor erosion during construction of these roads and parking lots. From the long-term view, paving these flat, dry areas would stabilize these erodable soils. Deleted parking space sites would be vegetated. The road improvements within the East Ashtabula site are designed to correct erosion problems.

3.11 Because availability of increased parking facilities would attract more visitors, local roads to Lake Ashtabula may at times have more traffic and maintenance problems.

ECONOMIC EFFECTS

3.12 Some economic benefits are expected to accrue at the regional level. Total construction and removal costs for the nine recreation areas are estimated at $2,359,000.

3.13 It is expected that most of the contract work would be done by regional firms. It is unlikely that large construction firms from outside the region would become involved in the work because of the small size of the individual projects and because the construction would be spread over an extended period of time.

3.14 Some additional employment would be stimulated since the Corps would have to employ a few additional people to supervise the expanded facilities. Also, contractors may hire additional people, at least on a part-time basis, to undertake the individual projects.

3.15 Purchase of materials to improve public facilities would benefit regional business activity and result in more tax revenues. If more people travel to the lake, local service businesses would benefit.

NATURAL RESOURCE EFFECTS

Air Quality

3.16 The proposed modifications should have no appreciable effect upon air quality. Construction equipment would emit small amounts of hydrocarbons. As a result of the proposed improvements, more people would probably be driving motor vehicles to the recreation sites at Lake Ashtabula. Therefore, local air quality would probably decrease slightly as a result of vehicle exhaust. This would apply mostly to Eggert's Landing.

Wildlife

3.17 The construction of the camping and picnicking facilities would have an adverse effect upon the habitat value at Lake Ashtabula. The primary source of impact would come from increased human activity in the area rather than from habitat lost to selective clearing. More reclusive forms of wildlife such as woodland songbirds and small predators would use the area less.

3.18 At all the recreation areas, plantings are proposed to provide screening between campsites, to revegetate cleared areas, etc. Native species rather than ornamental varieties would be planted. Overall, wildlife habitat increases as a result of plantings would probably be greater than habitat lost to project developments.

3.19 Increased motor boat usage of the lake might add to disturbance of waterfowl resting on the lake. Other proposed modifications would have negligible wildlife impacts.

3.20 The area of woods at West Ashtabula Crossing which would be used for camping is about 1/2 acre. An area of wooded wildlife habitat plantings at Eggert's Landing is currently being managed by the North Dakota Game and Fish Department. This wooded area of about 10 acres would be developed for camping. The use of the existing tree plantings and adjacent lands by wildlife already has been greatly diminished by heavy public use from the adjacent camping area to the south and from the cabin area to the north.

3.21 Some of the songbirds and other non-game wildlife would continue to use the tree plantings even with the expansion of camping sites at Eggert's Landing and increased public use of the area. Additional trees for various purposes would be planted over the next few years. These woody plantings would balance any loss of woody cover that may result from the proposed development at Eggert's Landing.

3.22 Sundstrom's Landing and Eggert's Landing will have the highest priority for redevelopment, since these two sites will be providing the major expansion of much needed facilities. All existing land now leased to the North Dakota Fish and Game Department should remain under their control with the exception of their leases at Eggert's Landing and Old Highway 26. At present they do not have an intensive management program but are doing occasional planting of woody vegetation to provide cover and food for wildlife. This should be encouraged, and the State will be encouraged to include additional tracts of land below Keyes Crossing in their wildlife management program.

Habitat Diversity

3.23 The proposed plantings will provide food and cover for wildlife and would add to the diversity of wildlife habitat.

Biological Productivity

3.24 Although available wildlife habitat would be increased substantially with the plantings, the disturbance to wildlife by increased public use of vegetated areas might cause a net decrease in wildlife populations on project lands.

Aquatic Habitat

3.25 Aquatic habitat might be slightly affected by development of swimming beaches or boat launch ramps. A minor amount of benthic community and/or pondweed (Potomogeton spp.) may be covered by clean sand or ramp materials. The loss of this aquatic life would be insignificant because of its abundance along the shoreline of Lake Ashtabula.

Water Quality

3.26 The proposed modifications would have minor water quality effects. The most notable would be temporary turbidity associated with water-related construction activities such as the installation of boat ramps. Increased motorized boat use of Lake Ashtabula would result in increased leakage of motor fuels into reservoir water.

Soil Erosion

3.27 Soil would be exposed by many of the projects. However, erosion potential would be minimal because of the small scope of the individual projects and because disturbed areas would be revegetated soon after the completion of construction. The following improvements would help to control erosion. At the East Ashtabula site, the road improvement project is designed to correct an erosion problem. The landscape plantings and paving for parking lots would also help to control erosion. At all the sites, new developments would be set back from the lake front to minimize erosion. Although these projects would help to control erosion, increased wear on soils and turf by more people could contribute to erosion problems.

4.00 ALTERNATIVES TO THE PROPOSED ACTIONS

NO ACTION

4.01 The no action alternative would entail updating the Master Plan with no proposed changes. Under this alternative, the impacts discussed in Section 3.00 would not occur.

4.02 The recreation areas would continue to function as they currently do. They would not be utilized to full capacity. Existing access, information, parking and recreation, and accessory facility shortcomings would not be corrected; the demand for availability of recreation services would not be met.

ALTERNATIVE PLANS

4.03 During the planning of the proposed modifications at the recreation areas, a set of planning criteria coupled with an analysis of site capabilities were utilized in arriving at the proposed plans. The planning criteria along with the site capability analysis are documented in the updated Master Plan. Because of the relatively highly developed nature of the recreation areas, alternative plans that would meet the planning criteria and site limitations would have environmental impacts very similar to those discussed for the proposed modifications. The proposed modifications are considered to be optimum development. Lesser facilities would not meet the recreation needs of the area as expressed by the public in meetings which were held. Greater site development would tend to be destructive of the natural resources of and around Lake Ashtabula and would not be justified by current demand predictions.

5.00 CONCLUSION

I conclude that the updating of the Lake Ashtabula Master Plan with the resulting site plan revisions does not have significant adverse impacts affecting the quality of the human environment. Therefore, an environmental impact statement will not be prepared under the provisions of the National Environmental Policy Act of 1969 and applicable Corps of Engineers regulations and guidance.

26 March 1979
DATE

Forrest T. Gay III
FORREST T. GAY, III
Colonel, Corps of Engineers
District Engineer

ENVIRONMENTAL IMPACT ASSESSMENT TABLE

NAME OF PARAMETER	MAGNITUDE OF IMPACT
I. SOCIAL EFFECTS	
a. Noise Levels	-1
b. Aesthetic Values	+1
c. Historical Values	UNKNOWN
d. Archaeological Values	UNKNOWN
e. Recreational Opportunities	+3
f. Transportation	+1
g. Public Health	0
h. Community Cohesion (Sense of Unity)	0
i. Community Growth & Development	0
j. Business and Home Relocations	0
k. Effects on Man-made Resources	+2
l. Existing/Potential Land Use	+1
m. Controversy	NONE EXPECTED
II. ECONOMIC EFFECTS	
a. Property Values	0
b. Tax Revenues	+1
c. Public Facilities	+2
d. Public Services	+1
e. Regional Growth	+1
f. Employment	0
g. Business Activity	+1
h. Farmland	0
i. Commercial Navigation	0
j. National Economic Development	0
III. NATURAL RESOURCE EFFECTS	
a. Air Quality	-1
b. Terrestrial Habitat	0
c. Wetlands	0
d. Aquatic Habitat	0
e. Habitat Diversity and Interspersion	+1
f. Biological Productivity	-1
g. Surface Water	-1
h. Groundwater	0
i. Soils	+1
j. Threatened or Endangered Species	0

KEY:

No Appreciable Effect (0) → Increasing Impact (1) (2) → Significant Impact (3)

(+) = Beneficial Effect (-) = Adverse Effect

Impacts ranked as 1, 2, & 3 will be discussed in the assessment.

The numbers used are to reflect magnitude of impact on a particular parameter; THEY ARE NOT ADDITIVE.

404b Evaluation of
Beach Improvement
Lake Ashtabula

Description and Location of the Proposed Action:

Baldhill Dam and Lake Ashtabula are located in Barnes, Griggs, and Steele Counties, North Dakota, on the Sheyenne River. Baldhill Dam is 271 river miles above the confluence of the Sheyenne River with the Red River of the North and approximately 16 river miles upstream from Valley City, North Dakota. Lake Ashtabula stretches for approximately 41.8 river miles above the dam with an average width of 1 mile. By highway, the dam is about 75 miles west of Fargo, North Dakota, at longitude 98°04'48", latitude 47°02'05", NW 1/4 section 18, T. 141 N. R. 58W.

The swimming beaches would be improved at the Main Public Use Area and at East Ashtabula Crossing and would be relocated at Sundstrom's Landing. A swimming beach would be added at Eggert's Landing. A beach area suitable for swimming would be utilized at Keyes Crossing.

Improvement of swimming beach facilities at Lake Ashtabula may include placement of clean sand such that it would alter the bottom elevation of this water body. However, this alteration would be slight.

SECTION 404 (b) EVALUATION MATRIX

	MAGNITUDE OF IMPACT
I. Physical Effects	
A. Potential destruction of wetlands-effects on	
1. Food chain production	N.A.
2. General habitat	N.A.
3. Nesting, spawning, rearing and resting sites for aquatic or land species	N.A.
4. Those set aside for aquatic environment study or for refuges	N.A.
5. Natural drainage characteristics	N.A.
6. Sedimentation patterns	N.A.
7. Flushing characteristics	N.A.
8. Current patterns	N.A.
9. Wave action, erosion or storm damage protection	N.A.
10. Storage areas for storm and flood waters	N.A.
11. Prime natural recharge areas	N.A.
12. Cumulative effects of alterations	N.A.
B. Impact on water column	
1. Reduction in light transmission	0
2. Aesthetic values	0
3. Direct destructive effects on nektonic and planktonic populations	0
C. Covering of benthic communities	
1. Actual covering of benthic communities	-1
2. Changes in community structure or function	-1

KEY:

No Appreciable Effect (0) → Increasing Impact (1) (2) → Significant Impact (3)

(+)=Beneficial Effect (-)=Adverse Effect

Impacts ranked as 1, 2, & 3 will be discussed. The numbers used are to reflect magnitude of impact in a particular area; THEY ARE NOT ADDITIVE.

Exhibit 2

	MAGNITUDE OF IMPACT
I. Physical Effects (continued)	
D. Other effects	
1. Changes in bottom geometry and substrate composition	0
2. Water circulation	0
3. Exchange of constituents between sediments and overlying water with alterations of biological communities	0
II. Chemical - Biological Interactive Effects	
A. Water column effects of chemical constituents	0
B. Effects of chemical constituents on benthos	0
III. Selection of Disposal Sites	
A. Impacts of fill on chemical, physical and biological integrity of aquatic ecosystem	
1. Impact on food chain	0
2. Impact on diversity of plant and animal species	0
3. Impact on movement into and out of feeding, spawning, breeding and nursery areas	0
4. Impact on wetland areas having significant functions of water quality maintenance	0
5. Impact on areas that serve to retain natural high waters or flood waters	0
B. Impacts on water uses at proposed fill site	
1. Municipal water supply intakes	0
2. Shellfish	0
3. Fisheries (including mitigation)	0
4. Wildlife (including mitigation)	0
5. Recreation activities	0
6. Threatened and endangered species	0
7. Benthic life	-1
8. Wetlands	0
9. Submerged vegetation	-1
10. Size of disposal site	0
11. Cultural resources, scenic and conservation values	N.A.
IV. Navigation impacts	
1. Impairment to maintenance of navigation	N.A.
2. Economic impact on navigation and anchorage	N.A.

V. Considerations to minimize harmful effects

The fill material would be clean sand.

VI. Quality of fill material

The fill material would be clean sand.

VII. Review State Water Quality Standards

The proposed project would not violate any specific water quality standard.

VIII. Discussion: Sand for the relocated beach would probably cover benthos and pondweeds (Potomogeton spp.) as would any fill placed for beach expansion. With abandonment of the beach area, the benthic community would probably recover from the disturbance previously caused by numerous swimmers. Pondweeds would recover with cessation of beach maintenance.

404b Evaluation of
Boat Ramp Construction
Lake Ashtabula

Description and Location of the Proposed Action:

The project is located mostly in Barnes County, North Dakota, and will include the shoreline of Lake Ashtabula from Baldhill Dam to Keyes Crossing. Baldhill Dam is located approximately 8 miles northwest of Valley City, North Dakota.

One boat launching ramp would be added at Eggert's Landing. The boat launching ramp would be improved at the following recreation sites:

Katie Olson's Landing
East Ashtabula Crossing
West Ashtabula Crossing
Keyes Crossing

Construction on these boat launching ramps may include placement of fill material such that it would alter the bottom elevation of this water body. However, this alteration would be slight.

SECTION 404 (b) EVALUATION MATRIX

	MAGNITUDE OF IMPACT
I. Physical Effects	
A. Potential destruction of wetlands-effects on	
1. Food chain production	N.A.
2. General habitat	N.A.
3. Nesting, spawning, rearing and resting sites for aquatic or land species	N.A.
4. Those set aside for aquatic environment study or for refuges	N.A.
5. Natural drainage characteristics	N.A.
6. Sedimentation patterns	N.A.
7. Flushing characteristics	N.A.
8. Current patterns	N.A.
9. Wave action, erosion or storm damage protection	N.A.
10. Storage areas for storm and flood waters	N.A.
11. Prime natural recharge areas	N.A.
12. Cumulative effects of alterations	N.A.
B. Impact on water column	
1. Reduction in light transmission	0
2. Aesthetic values	0
3. Direct destructive effects on nektonic and planktonic populations	0
C. Covering of benthic communities	
1. Actual covering of benthic communities	-1
2. Changes in community structure or function	0

KEY:

No Appreciable Effect (0) → Increasing Impact (1) (2) → Significant Impact (3)

(+)=Beneficial Effect (-)=Adverse Effect

Impacts ranked as 1, 2, & 3 will be discussed. The numbers used are to reflect magnitude of impact in a particular area; THEY ARE NOT ADDITIVE.

	MAGNITUDE OF IMPACT
I. Physical Effects (continued)	
D. Other effects	
1. Changes in bottom geometry and substrate composition	0
2. Water circulation	0
3. Exchange of constituents between sediments and overlying water with alterations of biological communities	0
II. Chemical - Biological Interactive Effects	
A. Water column effects of chemical constituents	0
B. Effects of chemical constituents on benthos	0
III. Selection of Disposal Sites	
A. Impacts of fill on chemical, physical and biological integrity of aquatic ecosystem	
1. Impact on food chain	0
2. Impact on diversity of plant and animal species	0
3. Impact on movement into and out of feeding, spawning, breeding and nursery areas	0
4. Impact on wetland areas having significant functions of water quality maintenance	0
5. Impact on areas that serve to retain natural high waters or flood waters	0
B. Impacts on water uses at proposed fill site	
1. Municipal water supply intakes	0
2. Shellfish	0
3. Fisheries (including mitigation)	0
4. Wildlife (including mitigation)	0
5. Recreation activities	0
6. Threatened and endangered species	0
7. Benthic life	-1
8. Wetlands	0
9. Submerged vegetation	-1
10. Size of disposal site	0
11. Cultural resources, scenic and conservation values	N.A.
IV. Navigation impacts	
1. Impairment to maintenance of navigation	N.A.
2. Economic impact on navigation and anchorage	N.A.

V. Considerations to minimize harmful effects

The fill material would be clean.

VI. Quality of fill material

The fill material would be clean.

VII. Review State Water Quality Standards

The proposed project would not violate any specific water quality standard.

VIII. Discussion:

Small areas of benthic communities and submerged pondweed (Potomogeton spp.) along the shoreline may be covered by placement of boat launching ramp materials in the water.

Exhibit 3

FINDINGS
CONSTRUCTION ACTIVITIES IN WETLANDS
MASTER PLAN UPDATE
LAKE ASHTABULA RECREATION AREAS

1. General - These findings are made pursuant to the requirements of Section 2(a) of Executive Order 11990. The criteria set forth in Section 5 of Executive Order 11990, the Chief of Engineers wetlands policy (33 C.F.R. 209.145 (e)(3)) and the Environmental Protection Agency guidelines on the discharge of dredged or fill material (40 C.F.R. 230) were considered in arriving at these findings.

2. Proposed Wetland Activities - The activities proposed in wetlands in the Master Plan update include (1) construction of boat launching ramps and (2) placement of sand blankets for swimming beach improvement. The placement of fill involved in the implementation of these proposed activities may cover portions of beds of pondweeds (Potomogeton spp.). According to the "Classification of Wetlands and Deep-Water Habitats of the United States" proposed by the U.S. Fish and Wildlife Service in October 1977, the pondweed beds along the shoreline of Lake Ashtabula may be classified as wetland habitat. The classification of the pondweed beds would be: Lacustrine-littoral-aquatic bed-submergent vascular.

3. Findings - I have evaluated the effects of the proposed activities proposed in wetlands described above. A discussion of the effects can be found in the environmental assessment on the proposed Master Plan update. I find that there is no practicable alternative to such construction, that the proposed activities include all practicable measures to minimize harm to the wetlands, and that the benefits associated with the alterations outweigh the damage to the wetland resource.

26 March 1979
DATE

Forrest T. Gay III
FORREST T. GAY, III
Colonel, Corps of Engineers
District Engineer

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